

### REMARKS

Applicant has amended method claim 8, cancelled the other original claims, added new, dependent, method claims 11-18 which depend from claim 8, added new, independent, cellulosic insulation composition claim 19 and dependent claims 20-28 which depend from claim 19. Independent claim 19 is modeled after original independent claim 1. Therefore, the claims now in the case are method claims 8 and 11-18 and insulation composition claims 19-28.

In paragraph 1 of the office action, in reference to claims 5 and 6, the examiner raised the question of how cellulosic fibers differ from wood fibers etc. This is a logical question because wood is cellulose. The answer is that, in the insulation business, the paper fibers in insulation made from ground newspaper are commonly and conventionally referred to as cellulosic fibers. The Smith reference refers to "cellulosic insulation" and "cellulosic material" [see e.g. col. 2, line 20] and doesn't distinguish between the fibers and the paper pieces which result from grinding the newspaper and any other kind of cellulose because there wasn't any other kind of cellulose in the insulation. As the examiner knows, newspaper is a composition which is made from wood fibers, clay and other minor components. Therefore, such fibers would be more accurately described as cellulosic fibers with clay deposits and other materials. Since that is a clumsy, wordy and non-conventional description which is not commonly used in the industry, since the application was written by the inventor and since the distinction between wood and the paper fibers in insulation has not been a distinction which had to be made in the past, the term "cellulosic fibers" is used in the common, conventional way, to refer to the paper fibers. The 35 U.S.C. 112 problems with claims 5 and 6, which

the examiner addressed, are believed removed as a result of the amendment of the claims. Applicant uses the terms (1) "cellulosic fibers" in the conventional manner to refer to the fibers which result from grinding the newspaper, (2) "paper pieces" to refer to the larger pieces of newspaper which also result from the grinding of the newspaper, and (3) "wood mulch" and "sawdust" to refer to those materials.

Applicant has amended the claims which are believed now allowable for the reasons described below. In summary, the Smith reference teaches adding staple, man-made fibers to cellulose insulation after the insulation composition is milled or ground. Applicant's invention adds positive fibers, such as wood and fiberglass, before milling or grinding. Because of this difference, the fibers in applicant's invention are rubbed by the grinding process and therefore their electrostatic charge is substantially enhanced. The result of adding the positive fibers and rubbing them in the grinding operation, is an insulation of improved (i.e. lower) density and less cost.

Before addressing the details of the reason applicant's invention as now claimed is patentable, applicant addresses a mistake made by applicant in the application. Specifically, applicant described polyester fibers as being positively charged. Applicant has, since filing the application, become aware of the Triboelectric Series. It is a list of materials, published by The Electrostatic Discharge Association, which lists some common materials arranged from most positive to most negative with respect to their electrostatic charge. Polyester, polypropylene, and polyethylene are near the negative end of this series. Therefore, it has become clear from this published series, that applicant was in error in characterizing polyester fibers as positive. As a result, applicant's amendment of the specification has deleted such erroneous statements.

Although the fibers added by Smith are negative while applicant uses positive fibers and that is an important distinction between applicant and Smith, that is not the principal distinction. It should be noted, however, that Smith says nothing about electrostatic charge. Electrostatic charge does not appear to play a role in the Smith teachings.

Turning now to the reasons for patentability, applicant agrees that the Rood reference shows what the examiner said it shows and doesn't show what the examiner said it doesn't show. Additionally, as the examiner stated, Smith does not show the addition of positively charged fibers to the insulation. More importantly, Smith Fig. 1 and the Smith description show that the Smith improvement adds its staple fibers after grinding in his hammermill pulverizer 10. Smith does not mention electrostatic charge because that is not a factor in his concept. Smith lowers the density of the insulation by including low density fibers [see Smith, col. 2, lines 40-45]. In other words, Smith makes a lighter insulation by using a lighter material. In fact consideration of Smith's Table 1 shows that the higher his proportion of low density fibers, the lower the density of his resulting insulation. Smith's Table 1 shows that he gets a settled density of 0.9 with 50% staple fibers and 0.7 with 100% staple fibers. But his application makes it clear that such a high proportion of half or all staple fiber is not practical and is too expensive.

Applicant does not see how this manner of obtaining a lower density has any beneficial effect on the insulative characteristics of the resulting insulation. One of the principal purposes for reducing density is to reduce density by having the fibers of the insulation further apart and homogeneously distributed in order to improve their insulative characteristics. That is what applicant does with the assistance of electrostatic

charge. While Smith's concept of using a lighter weight (lower density) material as a component of the insulation would reduce the density of the composite product, it also adds to the cost because the staple fibers are more expensive than newspaper. Smith seems to recognize that the fibers he adds are more expensive because, at column 3, line 23, he refers to the balance between adding his fiber and the density improvement he attains. In other words, while using a lighter material makes a lighter product, the object is to use essentially the same, inexpensive material but to make it less compact.

Applicant's approach is entirely different from Smith. Applicant seeks to introduce fibers into the cellulosic insulation which have an electrostatic charge opposite to that of the cellulosic fibers so that there will be electrostatic forces exerted within the insulation. Smith shows nothing like that. By grinding (milling) the mixture after the positive fibers have been added as applicant does, the rubbing from the grinding process enhances the electrostatic charge. This limitation of introducing the positive fibers before grinding is added to the claims. It is not new matter. The examiner is referred to the Abstract and to applicant's example 1 for disclosure of this sequence of steps in the original application.

The materials which applicant describes as suitable for the fibers with a positive electrostatic charge are identified in the application including a listing in the Abstract. These include ground cardboard, wood mulch, sawdust, all of which are inexpensive recycled waste products, and fiberglass.

The advantage of applicant's invention over Smith can be seen by comparing Smith's density to applicant's density data. As background, however, it should be noted that, unfortunately, "Settled Density" in Smith can not be compared to settled density in

applicant's experimental data because the Settled Density test used by Smith was an older test then used by the industry. The industry settled density test has changed and applicant used the current testing procedure. If applicant's settled density data were compared to Smith's settled density data, applicant's density would look even more advantageous than it actually is. However, looking at the blown density data of both, blown densities can be compared because they are the same test. The blown density is the density as initially blown into a container, before any settling. Applicant's blown density is considerably improved over both Smith's blown density and even more over the typical industry blown density. Since applicant's material begins in it blown state as less dense, its resulting settled density is also much better.

Smith [column 3, line 5] states that the typical blown density for loose fill cellulosic insulation is on the order of 2.0 pounds per cubic foot. Applicant believes that is substantially correct. Smith [column 3, line 7] states that with 5% of his staple fibers, he attains 1.3 pounds per cubic foot. Smith's claim 5 similarly states that with 2% to 8% of his fibers added, his blown density is on the order of 1.3 pounds per cubic foot.

Applicant's examples 1 and 2 describe a blown ("initial") density of 0.7 and 0.8 pounds per cubic foot respectively. This is obviously a considerable improvement. Since applicant did not give blown density for examples 3 and 4, it can not be directly seen in the description of those examples. However, for examples 3 and 4, applicant does give the per cent of settling and the settled density. The initial or blown density can be calculated from that data. Applicant's undersigned attorney did that calculation and for applicant's examples 3 and 4 got initial blown densities of 0.69 and 0.73 pounds per cubic

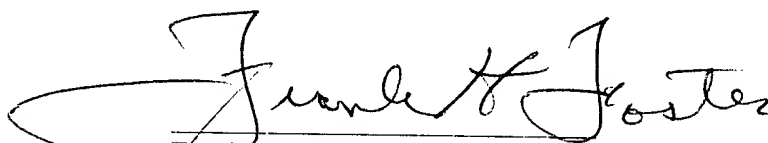
foot respectively. For applicant's examples 1-4, the proportion of added materials were 5% and 2%, yet all gave initial blown densities far superior to that of Smith.

Therefore, applicant's invention is not obvious from the prior art because it is directed (1) to the introduction of positively charged fibers into the cellulosic insulation and (2) does so before grinding so that the grinding can assist in charging the fibers in the insulation. Neither of these concepts is shown or even hinted at in the prior art. The use of applicant's invention gets results which are far superior to Smith which was superior to industry standards. Therefore, reconsideration and allowance are respectfully requested.

The Commissioner is authorized to charge Deposit Account No. 13-3393 for any insufficient fees under 37 CFR §§ 1.16 or 1.17, or credit any overpayment of fees.

Respectfully submitted,

3/24/03  
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